

APPLICANTS: Choi et al.
SERIAL NO.: 09/954,515
FILED: September 17, 2001
FOR: PROCESS FOR FORMING ELECTRODES

AMENDMENTS TO THE CLAIMS

Claims 1-17 (cancelled)

Claim 18 (currently amended): A substantially transparent electrode assembly comprising:
a substrate;
a high index layer formed on the substrate;
a conductive layer formed on and disposed adjacent to the high index layer;
a high index top layer having a conductivity ranging from about 100 ohms/square to about 400 ohms/square and a thickness of from about 20 nm to about 100 nm formed on the conductive layer,
at least the top layer and the conductive layer being patterned so as to divide the conductive layer into a plurality of discrete electrodes; and
a layer of silica disposed on the substrate, the layer of silica in substantially continuous contact with the substrate.

Claim 19 (original): An electrode assembly according to claim 18 having a plurality of conductors connected to portions of the top layer overlying the discrete electrodes.

Claim 20 (original): An electrode assembly according to claim 18 wherein the high index layer adjacent the substrate is an electrically insulating layer.

Claim 21 (original): An electrode assembly according to claim 18 wherein the substrate comprises a synthetic resin.

Claim 22 (original): An electrode assembly according to claim 18 wherein the high index layer adjacent the substrate comprises at least one of indium oxide, titanium dioxide, cadmium oxide, gallium indium oxide, indium tin oxide and tin dioxide.

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Claim 23 (original): An electrode assembly according to claim 18 wherein the conductive layer comprises at least one of gold, silver and a gold/silver alloy.

Claim 24 (original): An electrode assembly according to claim 18 wherein the top layer comprises at least one of indium oxide, titanium dioxide, cadmium oxide, gallium indium oxide, indium tin oxide and tin dioxide.

Claim 25 (canceled)

Claim 26 (original): A liquid crystal display assembly comprising a liquid crystal material sandwiched between two electrode assemblies, at least one of the electrode assemblies being an assembly according to claim 18.

Claim 27 (original): A touch screen display apparatus comprising a display screen having superposed thereover two electrode assemblies, at least one of the electrode assemblies being an assembly according to claim 18.

Claim 28 (previously presented): An electrode assembly according to claim 18 wherein the substrate is a material selected from the group consisting of polyether sulfones, poly(alkyl)acrylates, cellulose diacetate, polycarbonates, polyesters, polycarbonate copolymers and poly(bis(cyclopentadiene) condensate).

Claim 29 (currently amended): A substantially transparent electrode assembly comprising:
a substrate;
a high index layer formed on the substrate;
a conductive layer formed on and disposed adjacent to the high index layer; and
a high index top layer having a conductivity ranging from about 100 ohms/square to about 400 ohms/square ~~and a thickness of from about 20 nm to less than about 30 nm~~ formed on the

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conductive layer,

at least the top layer and the conductive layer being patterned so as to divide the conductive layer into a plurality of discrete electrodes.

Claim 30 (previously presented) An electrode assembly according to claim 29 further comprising a hard coating.

Claim 31 (previously presented) An electrode assembly according to claim 29 wherein the hard coating has a thickness from about 1 μm to about 15 μm .

Claim 32 (previously presented) An electrode assembly according to claim 18 wherein the layer of silica has a thickness from about 10 nm to about 30 nm.

Claim 33 (new) An electrode assembly according to claim 18 wherein the conductive layer comprises a layer of gold disposed on a layer of silver.

Claim 34 (new) An electrode assembly according to claim 18 wherein the conductive layer comprises a layer of silver sandwiched between two layers of gold.

Claim 35 (new) An electrode assembly according to claim 18 having 80% transparency at 550 nm, and less than 10 ohms per square sheet resistance.

Claim 36 (new) An electrode assembly according to claim 18 wherein the top layer is formed at a temperature not greater than about 170°C.

Claim 37 (new) An electrode assembly according to claim 29 wherein the conductive layer comprises a layer of silver disposed on a layer of gold.

Claim 38 (new) An electrode assembly according to claim 29 wherein the conductive layer comprises a layer of silver sandwiched between two layers of gold.

Claim 39 (new) An electrode assembly according to claim 29 having 80% transparency at

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550 nm, and less than 10 ohms per square sheet resistance.

Claim 40 (new) An electrode assembly according to claim 29 further comprising a layer of silica disposed on the substrate, the layer of silica in substantially continuous contact with the substrate.